REMARKS

The examiner has simply repeated the same rejections cited in the first office action. It is applicant's contention that the examiner still has not made a prima facie case. The applicant will reiterate their responses to the first office action, as they remain pertinent, and will indicate why the examiner's remarks do not address the issues raised in the applicant's prior response.

The teachings of Lakshmi:

Lakshmi is directed to methods for searching a database. Database searches can be lengthy procedures requiring extensive i/o operations, memory and processor capacity. Lakshni is directed to a technique to construct an "optimal" database search strategy, optimal in the sense of reducing costs, system resources or other desired parameters. Lakshmi uses a neural network in his technique, as follows: (1) a user search query (such as a SQL query) is received by the "optimizer"; (2) the optimizer extracts standard features of the search query to form a feature vector; (3) the feature vector is input into a neural network (NN), where the NN is trained to output or predict cost values (like expected I/O calls, selectively values for the data types, cost per call (processor resources, etc) , and (4) the "cost values" are used by the optimizer (not the neural network) to construct an optimized search strategy (for instance, to search using sequential table scans, B-tree scan indexes, etc). The optimized search strategy is provided to the database management system search engine, which then undertakes the search of the database and outputs the results of the search. See generally, Col 5, lines 22-36. The database may be located on one computer or spread across several computers.

The application of Lakshmi to the Invention.

The examiner has indicated that Lakshmi teaches a system for receiving a data request, and assigning one computer from a plurality to service the data request. The examiner indicates that this is taught in the abstract, or in Col 33, lines 66-67, or Col 12 lines 53-63. This teaching is not present in Lakshmi nor suggested in Lakshmi. Indeed, Lakshmi does not contain such a teaching as Lakshmi is directed to techniques for optimizing database searches, that is, techniques for searching through a database. Lakshmi does not teach or suggest any means of choosing a particular computer from a plurality of computers to respond to a data request where all computers (or a subset) are capable of responding to the particular request.

Applicant's claims are not directed to "finding" data responsive to a query through a search, as does Lakshmi. Applicant's invention is directed to choosing one computer from a plurality to respond to the data request. Applicant's invention is directed to subject matter completely different than Lakshmi. Applicant does not search for data responsive to the request; instead, Applicant searches for a computer to receive the request for response, where each computer is capable of responding to the request.

The examiner also indicates that Lakshmi teaches selecting a computer assignment associated with an output node of the neural network. Lakshmi fails to so teach. Again, Lakshmi is not directed to choosing computers, but of construction of optimal search strategies.

Response to the examiner's new remarks

The examiner, in her remarks to applicants' prior distinction of the Lakshmi patent, indicates that Lakshmi teaches choosing "processing" units within the neural network, and that

Lakshmi teaches selectively choosing "processing units" in the neural network, citing column 5 lines 24-53. This area of Lakshmi simply describes any neural network which is composed of nodes or neurons (referred to in Lakshmi as processing units). Lakshmi does not teach "choosing" processing units within a neural network; Lakshmi simply describes feeding an input feature vector into a neural network and having the neural network process the feature vector to create the output of the network. The examiner is confusing the basic operation of a neural network with the "choosing a computer system" through the use of a neural network

The teachings of Kakazu

Kakazu teaches methods to check the input/output characteristics of a neural network. Kakazu teaches checking the input/output characteristics as follows: choosing one input node, and inputting a predetermined range of variable data to the selected node while keeping constant inputs data to the remaining nodes, and examining the resultant output data from the output nodes. See col 2., lines 21-30.

The application of Kakazu to the Invention.

The examiner has indicated that Kakazu teaches associating each output node of the neural network with a computer from a plurality of computers. The examiner indicates this teaching is in the abstract. Such a teaching is not in the abstract, nor anywhere else in Kakazu. Indeed, Kakazu does not mention multiple computers in the patent.

The examiner also indicates that Kakazu teaches inputting into the input layer of the neural network a vector R, where the entries of this vector are dependent upon the number of

requests of the requested data set over a predetermined of time. The examiner cites Col.2, lines 27-30, and Col. 4, lines 62-67 for this proposition. However, a reading of theses sections indicates that an input vector is used and one of the components of this input vector can be varied to examine the resulting the changes in the output vector. Nowhere does Kakazu teach or suggest associating the input vector components with the number of prior requests for a particular data set over a predetermined period of time. Indeed, Kakazu would not suggest such, as Kakazu does not deal with multiple computers or multiple data sets.

Response to the examiner's new remarks

The examiner, in her remarks to the applicant's prior distinguishing of the Kakazu patent, has indicated that applicant's claim 1 does not depend upon prior requests. Applicant disagrees. Step (c) of claim 1 requires that the input vector has entries R(I) at each node I, where R(I) is dependent upon the number of requests for the requested data over a predetermined period of time." This indicates that the input vector is dependent upon the number of prior requests that occur in a designated window (the predetermined period of time) that precedes the instant request. The examiner indicates that Kaluazu teaches, in the abstract of the specification, using input vectors of pervious requests; applicant has searched in vain for such language. Kaluza simply lacks this feature.

Distinguishing Applicant's inventions form the prior cited art

Both Kakazu and Lakshmi use back propagation neural networks, where, during learning, the updated nodal weights are calculated from the minimization of errors generated in the actual

output from the desired output (the back propagation equations are specified in Kakazu, generally col 5 and Col. 6, where the specific change in nodal weight is given by equation (13)). Once learning is complete, the NN is used on new data with the established weights, and no additional learning takes place.

Applicant's method is not a back propagation method for updating the nodal weights. Applicant's change in nodal weights during learning is a modified competitive learning algorithm, specified by minimizing equation 1, where the minimization results in the equation (2), page 40 as the sum of a neighborhood function and load balancing function.[1] After the output is complete, the weighs are updated as claimed in claim 2. Hence, applicant's procedure is constantly learning, that is continuously updating the nodal weights. None of the references cited are directed to this particular algorithm nor the particular application as claimed. Hnece, claim 2 and all dependent claims are not taught or suggested.

The combination of Lakshmi and Kakazu

The examiner has used the combination of Lakshmi and Kakazu on all of applicant's claims, and in particular, applicant's independent claims. The applicant respectfully submits that the examiner has not established a prima facie case of obviousness as required under MPEP §706.02(j) for these independent claims, and hence, all the dependent claims. That section provides in part:

[1] See *Faster Web Page Allocation with Neural Networks*,, Phoha. et al, IEEE Internet Computing, Nov.-Dec. 2002

After indicating that the rejection is under 35 U.S.C. 103, the examiner should set forth in the Office action:

(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Examiner's rejections under 35 U.S.C. §103 consist of a recitation of the elements of the claims which are alleged to be found in two separate references followed by a conclusion that it would be obvious to combine the elements from the two separate references. However, the cited referenced fail to disclose or teach those elements of the Applicant's claims, as suggested by the examiner. The examiner has cited Lakshmi and Kakazu as reciting elements

which are simply not present in these references. The examiner has failed to make a *prima facie* case of obviousness.

Because the examiner has failed to make a prime facie case with respect to the independent claims, the examiner's rejections of the remaining dependent claims do not need to be addressed.

Respectfully submitted,

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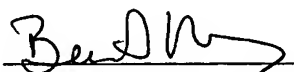

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I hereby certify that this correspondence is being deposited with The United States Postal Service in an envelope addressed to: **Mail Stop AF**, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this _____ day of _____, 2005.

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